

Permit #
Permit Date



COMcheck Software Version 3.1 Release 1

Envelope Compliance Certificate

2000 IECC

Report Date: 02/22/07

Data filename: Q:\WAITIN~1\11685L~1\11685C~1.CCK

Section 1: Project Information

Project Title: 11685 Quiznos

Construction Site:
1756 PRIEN LAKE RD UNIT K
LAKE CHARLES, LA 70601

Owner/Agent:
TRACEY YOUNG
1720 E. Napoleon St.
Sulphur, LA 70663
(337) 217-3669
juliejmy@yahoo.com

Designer/Contractor:
David Dammon
Dammon Engineering
1095 Florida Ave.
Slidell, LA 70458
(985) 649-5832
dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data): **Lake Charles, Louisiana**
 Climate Zone: **4b**
 Heating Degree Days (base 65 degrees F): **1616**
 Cooling Degree Days (base 65 degrees F): **2650**
 Project Type: **New Construction**
 Glazing Area Percentage: **24%**

323199

REVIEWED FOR
STATE FIRE MARSHAL
AS PER REVIEW LETTER
BY: OTIS V. RANNEY
Otis V. Ranney

Activity Type(s) **Floor Area**
 Restaurant 2400

Section 3: Requirements Checklist

Envelope PASSES: Design 43% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Metal Roof with Thermal Blocks	2400	19.0	15.0	0.034	0.071
Exterior Wall 1: Metal Frame, 16" o.c.	1800	19.0	14.0	0.044	0.222
Door 1: Glass, Clear, SHGC 0.43	80	---	---	1.000	1.230
Window 2: Metal Frame with Thermal Break, Double Pane, Tinted, SHGC 0.50, PF 1.00	350	---	---	2.000	1.230
Floor 2: Structural Slab	2400	---	40.0	0.023	0.175

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2000 IECC, Chapter 8, requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Dammon
Principal Envelope Designer-Name

David Dammon
Signature

2-23-07
Date

Permit #
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COMcheck Software Version 3.1 Release 1

Lighting Compliance Certificate

2000 IECC

Report Date: 02/22/07

Data filename: Q:\WAITIN~1\11685L~1\11685C~1.CCK

Section 1: Project Information

Project Title: 11685 Quiznos

Construction Site:
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LAKE CHARLES, LA 70601

Owner/Agent:
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(337) 217-3669
juliejmy@yahoo.com

Designer/Contractor:
David Dammon
Dammon Engineering
1095 Florida Ave.
Slidell, LA 70458
(985) 649-5832
dammoneng@bellsouth.net

Section 2: General Information

Building Use Description by: **Activity Type**
Project Type: **New Construction**

Activity Type(s)	Floor Area
Restaurant	2400

323199

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STATE FIRE MARSHAL
AS PER REVIEW LETTER
BY: OTIS V. RAMKE
O. Ramke

Section 3: Requirements Checklist

Interior Lighting:

1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
4080	908	YES

Exterior Lighting:

2. Efficacy greater than 45 lumens/W.

Exceptions:

Specialized lighting highlighting features of historic buildings; signage; safety or security lighting; low-voltage landscape lighting.

Controls, Switching, and Wiring:

3. Independent controls for each space (switch/occupancy sensor).

Exceptions:

Areas that must be continuously illuminated.

4. Master switch at entry to hotel/motel guest room.

5. Each space provided with a manual control to provide uniform light reduction capability.

Exceptions:

Only one luminaire in space;
An occupant-sensing device controls the area;
The area is a corridor, storeroom, restroom, public lobby or guest room;
Areas that must be continuously illuminated.

6. Photocell/astronomical time switch on exterior lights.

Exceptions:

Lighting intended for 24 hour use.

7. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

Exceptions:

Electronic high-frequency ballasts; Luminaires not on same switch.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2000 IECC requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Dammen
Principal Lighting Designer-Name

David Dammen
Signature

2-23-07
Date

Permit #
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COMcheck Software Version 3.1 Release 1

Lighting Application Worksheet

2000 IECC

Report Date:

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Section 1: Allowed Lighting Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Restaurant	2400	1.7	4080
Total Allowed Watts =			4080

Section 2: Actual Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
2X4: 2X4: FLUORESCENT / 48" T12 40W / Magnetic	3	19	32	608
Incandescent 1: Incandescent 60W	1	5	60	300
Total Actual Watts =				908

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts = 4080
 Total Actual Watts = 908
 Project Compliance = 3172

Lighting PASSES: Design 78% better than code.

Permit #
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COMcheck Software Version 3.1 Release 1
Mechanical Compliance Certificate

2000 IECC

Report Date: 02/22/07

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Section 1: Project Information

Project Title: 11685 Quiznos

Construction Site:
 1756 PRIEN LAKE RD UNIT K
 LAKE CHARLES, LA 70601

Owner/Agent:
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Designer/Contractor:
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 dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data): **Lake Charles, Louisiana**
 Climate Zone: **4b**
 Heating Degree Days (base 65 degrees F): **1616**
 Cooling Degree Days (base 65 degrees F): **2650**
 Project Type: **New Construction**

3231999

REVIEWED FOR
 STATE FIRE MARSHAL
 AS PER REVIEW LETTER
 BY OTIS V. RAMKE
Otis V. Ramke

Section 3: Mechanical Systems List

Quantity	System Type & Description
3	HVAC System 1: Heating: Central Furnace, Electric / Cooling: Split System, Capacity <65 kBtu/h, Air-Cooled Condenser / Single Zone

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

- 1. Newly purchased cooling equipment meets the cooling efficiency requirements

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Load calculations per 1997 ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
 - Exception: Standby equipment automatically off when primary system is operating
 - Exception: Multiple units controlled to sequence operation as a function of load
- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Thermostatic controls has 5 degrees F deadband
 - Exception: Thermostats requiring manual changeover between heating and cooling
- 6. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
 - Exception: Continuously operating zones
 - Exception: 2 kW demand or less, submit calculations
- 7. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- 8. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 9. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the

- building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
 - Exception: Ducts located within equipment
 - Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.
- 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 11. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 12. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
 - Exception: Piping within HVAC equipment
 - Exception: Fluid temperatures between 55 and 105 degrees F
 - Exception: Fluid not heated or cooled
 - Exception: Runouts <4 ft in length
- 13. Operation and maintenance manual provided to building owner
- 14. Balancing devices provided in accordance with IMC 603.15

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2000 IECC, Chapter 8, requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Dammon
Principal Mechanical Designer-Name

David Dammon
Signature

2-23-07
Date



COMcheck Software Version 3.1 Release 1

Mechanical Requirements Description

2000 IECC

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The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

1. The specified cooling equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures equivalent to those in Chapters 27 and 28 of the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
 - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
 - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Thermostats controlling both heating and cooling must be capable of maintaining a 5 degrees F deadband (a range of temperature where no heating or cooling is provided).
 - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
6. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during coolingb) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedulesc) have an accessible 2-hour occupant override) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
 - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
 - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
7. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all exhaust systems must have dampers that are automatically closed while the equipment is not operating.
8. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
9. Air ducts must be insulated to the following levels:a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
 - Exception: Duct insulation is not required on ducts located within equipment.
 - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
10. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A or UL 181B.
11. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution

- equipment, including multiple-zone terminal units.
12. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes $\leq 1\frac{1}{2}$ -in. nominal diameter 2 in. for pipes $> 1\frac{1}{2}$ -in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes $\leq 1\frac{1}{2}$ -in. nominal diameter 1 $\frac{1}{2}$ in. insulation for pipes $> 1\frac{1}{2}$ -in. nominal diameter. Steam piping: 1 $\frac{1}{2}$ in. insulation for pipes $\leq 1\frac{1}{2}$ -in. nominal diameter 3 in. insulation for pipes $> 1\frac{1}{2}$ -in. nominal diameter.
 - Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
 - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.
 - Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
 - Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
 13. Operation and maintenance documentation must be provided to the owner that includes at least the following information:a) equipment capacity (input and output) and required maintenance actionsb) equipment operation and maintenance manualsc) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming commentsd) complete narrative of how each system is intended to operate.
 14. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.